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RAW SEQUENCE LISTING

DATE: 12/09/2003

PATENT APPLICATION: US/09/546,201A

TIME: 10:52:48

Input Set : N:\Crf4\12042003\I546201.raw

Output Set: N:\CRF4\12092003\I546201A.raw

1 <110> APPLICANT: POLO, John M
2 DUBENSKY JR., Thomas W
3 BELLI, Barbara A
4 PERRI, Silvia
5 FONG, Timothy C
6 <120> TITLE OF INVENTION: ENHANCEMENT OF THE IMMUNE RESPONSE FOR VACCINE AND GENE
THERAPY
7 APPLICATIONS
8 <130> FILE REFERENCE: 2300-1463 (PP01463.002)
9 <140> CURRENT APPLICATION NUMBER: US/09/546,201A
10 <141> CURRENT FILING DATE: 2000-04-10
11 <150> PRIOR APPLICATION NUMBER: 60/128,409
12 <151> PRIOR FILING DATE: 1999-04-08
13 <160> NUMBER OF SEQ ID NOS: 70
14 <170> SOFTWARE: PatentIn version 3.2
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17 <211> LENGTH: 434
18 <212> TYPE: DNA
19 <213> ORGANISM: Artificial
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25 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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29 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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33 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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35 <221> NAME/KEY: misc_feature
36 <222> LOCATION: (50)..(89)
37 <223> OTHER INFORMATION: complementary sequence for the hammerhead ribozyme
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41 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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43 <221> NAME/KEY: misc_feature
44 <222> LOCATION: (67)..(69)

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Input Set : N:\CrF4\12042003\I546201.raw

Output Set: N:\CRF4\12092003\I546201A.raw

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46 <220> FEATURE:
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48 <222> LOCATION: (99)..(101)
49 <223> OTHER INFORMATION: starting Met
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52 <222> LOCATION: (177)..(179)
53 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
54 <220> FEATURE:
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56 <222> LOCATION: (303)..(305)
57 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
58 <220> FEATURE:
59 <221> NAME/KEY: misc_feature
60 <222> LOCATION: (378)..(380)
61 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
62 <220> FEATURE:
63 <221> NAME/KEY: misc_feature
64 <222> LOCATION: (418)..(418)
65 <223> OTHER INFORMATION: target sequences for both hammerhead and hairpin ribozymes
66 <220> FEATURE:
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68 <222> LOCATION: (420)..(422)
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73      tgcgcccgtg gctggaggag cagataaact ccaacacgat cccggggctc aagtggctta      180
74      acaaggaaaa gaagattttt cagatcccct ggatgcatgc ggctagacat ggggtgggatg      240
75      tggaaaaaga tgcaccactc tttagaaacc gggcaatcca tacaggaaag catcaaccag      300
76      gagtagataa acctgatccc aaaacatgga aggcgaattt cagatgcgcc atgaattcct      360
77      tgcctgatat tgaagaagtc aaggataaaa gcataaagaaggaaataat gccttcaggg      420
78      tctaccgaat gctg                                         434
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81 <211> LENGTH: 376
82 <212> TYPE: DNA
83 <213> ORGANISM: Artificial
84 <220> FEATURE:
85 <223> OTHER INFORMATION: YY1
86 <220> FEATURE:
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88 <222> LOCATION: (113)..(115)
89 <223> OTHER INFORMATION: target sequences for hammerhead ribozyme
90 <220> FEATURE:
91 <221> NAME/KEY: misc_feature
92 <222> LOCATION: (128)..(130)
93 <223> OTHER INFORMATION: target sequences for hammerhead ribozyme
94 <220> FEATURE:

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96 <222> LOCATION: (140)..(142)
97 <223> OTHER INFORMATION: target sequences for hammerhead ribozyme
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101 <223> OTHER INFORMATION: target sequences for hammerhead ribozyme
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104 <222> LOCATION: (173)..(178)
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108 <222> LOCATION: (228)..(266)
109 <223> OTHER INFORMATION: complementary sequence for the hammerhead ribozyme
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112 <222> LOCATION: (234)..(236)
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116 <222> LOCATION: (241)..(243)
117 <223> OTHER INFORMATION: starting Met
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120 <222> LOCATION: (246)..(248)
121 <223> OTHER INFORMATION: target sequences for a chosen ribozyme
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129      ccgcccgtc gccgccttc tccctctgcc ttccttcccc acggccggcc gcctcctcgc      180
130      ccgcccgcc gcagccgagg agccgaggcc gccgcgggcg tggcgggcga gccctcagcc      240
131      atggcctcgg gcgacaccct ctacatcgcc acggacggct cggagatgcc ggccgagatc      300
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143 <222> LOCATION: (16)..(18)
144 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme

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145 <220> FEATURE:
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148 <223> OTHER INFORMATION: starting Met
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151 <222> LOCATION: (39)..(41)
152 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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156 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
157 <220> FEATURE:
158 <221> NAME/KEY: misc_feature
159 <222> LOCATION: (61)..(63)
160 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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162 <221> NAME/KEY: misc_feature
163 <222> LOCATION: (100)..(138)
164 <223> OTHER INFORMATION: complementary sequence of the hairpin ribozyme
165 <220> FEATURE:
166 <221> NAME/KEY: misc_feature
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168 <223> OTHER INFORMATION: target sequence for a chosen ribozyme
169 <220> FEATURE:
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171 <222> LOCATION: (103)..(103)
172 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
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175 <222> LOCATION: (105)..(107)
176 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
177 <220> FEATURE:
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180 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
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183 <222> LOCATION: (234)..(236)
184 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
185 <400> SEQUENCE: 3
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187 gtcctcctga ctggggtgag ggccagccca ggccagggca cccagtctga gaacagctgc 120
188 acccacttcc caggcaacct gcctaacatg cttcgagatc tccgagatgc cttcagcaga 180
189 gtgaagactt tctttcaa at gaaggatcag ctggacaact tgttggttaa ggagtccttg 240
190 ctggaggact ttaagggtta cctgggttgc caagccttgt ctgagatg 288
192 <210> SEQ ID NO: 4
193 <211> LENGTH: 296
194 <212> TYPE: DNA

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195 <213> ORGANISM: Artificial
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205 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
206 <220> FEATURE:
207 <221> NAME/KEY: misc_feature
208 <222> LOCATION: (28)..(30)
209 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
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211 <221> NAME/KEY: misc_feature
212 <222> LOCATION: (33)..(35)
213 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
214 <220> FEATURE:
215 <221> NAME/KEY: misc_feature
216 <222> LOCATION: (50)..(52)
217 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
218 <220> FEATURE:
219 <221> NAME/KEY: misc_feature
220 <222> LOCATION: (98)..(100)
221 <223> OTHER INFORMATION: starting Met
222 <220> FEATURE:
223 <221> NAME/KEY: misc_feature
224 <222> LOCATION: (101)..(103)
225 <223> OTHER INFORMATION: target sequence for hammerhead ribozyme
226 <220> FEATURE:
227 <221> NAME/KEY: misc_feature
228 <222> LOCATION: (123)..(159)
229 <223> OTHER INFORMATION: complementary sequence of the hairpin ribozyme
230 <220> FEATURE:
231 <221> NAME/KEY: misc_feature
232 <222> LOCATION: (126)..(130)
233 <223> OTHER INFORMATION: target sequence for a chosen ribozyme
234 <220> FEATURE:
235 <221> NAME/KEY: misc_feature
236 <222> LOCATION: (126)..(126)
237 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
238 <220> FEATURE:
239 <221> NAME/KEY: misc_feature
240 <222> LOCATION: (128)..(130)
241 <223> OTHER INFORMATION: target sequence for both hammerhead and hairpin ribozymes
242 <220> FEATURE:
243 <221> NAME/KEY: misc_feature

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RAW SEQUENCE LISTING ERROR SUMMARY
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Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6,65,69
Seq#:3; Line(s) 172,176,180,184
Seq#:4; Line(s) 237,241
Seq#:25; Line(s) 446

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27
Seq#:28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51
Seq#:52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

VERIFICATION SUMMARY

DATE: 12/09/2003

PATENT APPLICATION: US/09/546,201A

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Input Set : N:\Crf4\12042003\I546201.raw

Output Set: N:\CRF4\12092003\I546201A.raw